

worthy player, activity in the amygdala - a part of the brain linked to processing threats - became stronger. The patterns of the activity also became more similar to those that occurred when first learning about the untrustworthy player.

The team also found participants were more likely to choose a stranger with a resemblance to a trustworthy man if patterns of activity in part of the brain involved in the reward system were more similar to those when learning about the trustworthy player in the first task.

A face you can trust? Study shows how we put our faith in strangers

Nicola Davis

From getting into a taxi to asking a fellow train passenger to keep an eye on your luggage while buying a coffee, we have all put our trust in those we do not know.

Now researchers have revealed strangers are more likely to be trusted if they look like someone who has earned your trust before, and more likely to be distrusted if they resemble someone who betrayed you.

"What we wanted to figure out was what happens when you come across somebody for the first time," said Dr Oriol Feldman Hall, a social neuroscientist from Brown University, who co-authored the report.

Writing in the journal PNAS, the team of researchers in the US said they asked 29 participants to either keep \$10 (£7.10) or invest all or part of it in one of three men they did not know but whose photographs they were shown.

Over the course of 45 games, 15 for each photograph, participants discovered that while one of the three men frequently shared the return on the investment, another only split the return 60% of the time, while the third very rarely shared it at all.

A second experiment asked participants to pick a partner for a new game: either a player whose face they could not see, or a player whose face they were shown in a photograph. While four were totally new faces, 54 photographs were images that had been tinkered with to revive memories of players from the previous game.

The results showed that the more a possible player looked like a previously trusted individual, the more likely they were to be selected for the next task, while an even stronger effect was found for those who resembled the untrustworthy man in the initial game. While about 55% of participants chose the faceless player when the alternative picture bore the least resemblance to the previous men, just over 68% turned down the player if he bore any resemblance to the untrustworthy man.

The team then carried out the same experiments with 28 new participants, while brain scanning took place. As the image of the potential candidate was tweaked to look more like the untrust-